

# ANICAH SMITH O'BRIEN

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## EDUCATION

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### University of Kentucky (UK)

B.S. Chemical Engineering – May 2022

*Cumulative GPA: 3.93*

### North Carolina State University (NCSU)

PhD Chemical Engineering – Estimated graduation, 2027

## RESEARCH EXPERIENCE

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January 2023-  
Present

### Graduate researcher: NCSU Dept. of Chemical and Biomolecular Engineering & Dept. of Civil, Construction, and Environmental Engineering

- Developed testing procedure for evaluating polymer biodegradability in compost, ensuring safety standards and proper handling of biological materials
- Prioritizes Environmental Health and Safety standards in laboratory

January 2020-  
January 2022

### Undergraduate researcher: UK Department of Chemical and Materials Engineering

- “Thermoresponsive Cationic Polymers: PFAS Binding Performance under Variable pH, Temperature, and Comonomer Composition” in MDPI Gels, 2022
- Developed free radical polymerization method for nanocomposite gels
- Chosen out of over 200 applicants to participate in Engineered Bioactive Interfaces and Devices Research Experience for Undergraduates during summer 2021
- Autonomously executed key experiments and formulated results in both a written and oral format

## WORK HISTORY

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August 2019-  
May 2022

### Calculus Tutor: Transformative Learning

- Led simultaneous in-person instruction to 15 calculus 1 and 2 students
- Identified gaps in student knowledge and implemented a wide range of instructional approaches to engage students with various learning styles
- Adapted to online instruction and maintained tutor/student relationships during the pandemic

August 2020-  
May 2022

### Teaching Assistant: UK Department of Chemical and Materials Engineering

- Advised students in Process Principles and Thermodynamics
- Organized student homework and developed assignments alongside professors
- Graded 40 student homeworks per week

## AWARDS AND FELLOWSHIPS

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- May 2022      **Nonwoven's Institute Industrial Advisory Board Meeting: *Best Presentation***
- Chosen out of 20 graduate students from 3 institutions
  - Voted on by over 100 industry professionals
- August 2022      **NCSU: *Dean's Doctoral Fellowship and Graduate Merit Awards***
- Identified as a top engineering graduate student in the college, awarded \$15,600 for one semester
  - 2 graduate merit awards in the amounts of \$3,600 and \$3,000 based on undergraduate GPA
- November 2021      **American Institute of Chemical Engineers National Poster Competition: *2<sup>nd</sup> Place***
- Competed against 40 undergraduate students from around the world
- August 2021      **NSF REU: *Best Overall Student***
- Most congenial and accomplished REU student out of 25
- May 2021      **UK: *Outstanding Junior Nominee***
- One of 5 nominated by chemical engineering faculty members out of 80 students
- July 2020      **American Institute of Chemical Engineers: *Outstanding Sophomore***
- Sophomore with highest cumulative GPA and outreach efforts out of 80 students